

## Bird notes from St. Lawrence Island, Alaska

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The avifauna of St. Lawrence Island, in the Bering Sea midway between the Old and the New Worlds, and about 400 km south of the Arctic Circle, was admirably summarized to date by Fay and Cade (1959). During our work there with Golden Plovers from 2 June to 28 August 1960 (Sauer, 1962), we made sundry observations on 57 other species that seem worth recounting as complimentary or additional to the Fay and Cade data. These add nesting records for five species to the island. Most of our observations were restricted to the Boxer Bay area, but our records also include bird notes made on overland and boat trips from Boxer Bay to Gambell and to the western margin of Koozata Lagoon (Fig. 1).

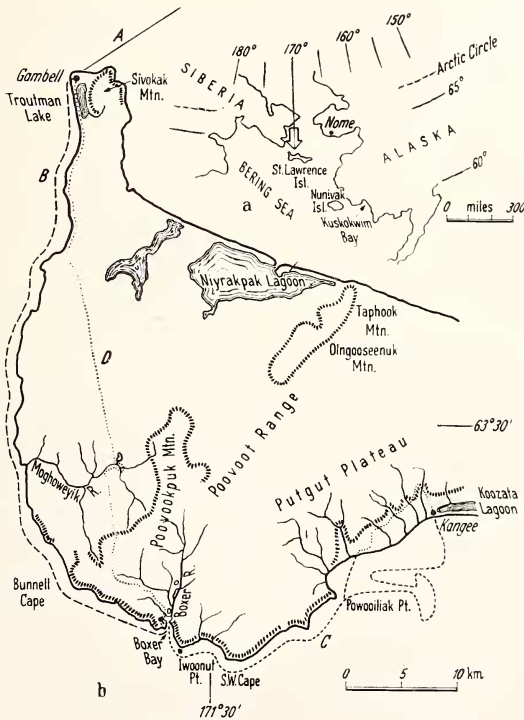


Fig. 1 a, b. St. Lawrence Island, Bering Sea. a) Location; b) Northwest Section. Routes A planes, B skin boats to and from Boxer Bay, C skin boat and hike to and from Kangee. D hike to Gambell.

*Gavia adamsii*. The Yellow-billed Loon, though of North Pacific distribution and origin, is apparently of rare and sporadic occurrence on the western end of

St. Lawrence Island. We watched a single bird on 22 August off the west coast about 15 miles south of Gambell before an Eskimo shot it to eat.

*Gavia stellata*. During June Red-throated Loons visited Boxer Lake and Little Lake in twos and threes. On 10 June the junior author collected a female flushed from Little Lake with a flock of Oldsquaws. On 14 June we saw a pair at Koozata Lagoon at Kangee.

*Fulmarus glacialis*. On 6 June we counted 15 Fulmars along the west coast between Gambell and Bunnell Cape.

*Puffinus tenuirostris*. On 22 August we saw 10 Slender-billed Shearwaters near the coast about 10 miles south of Gambell.

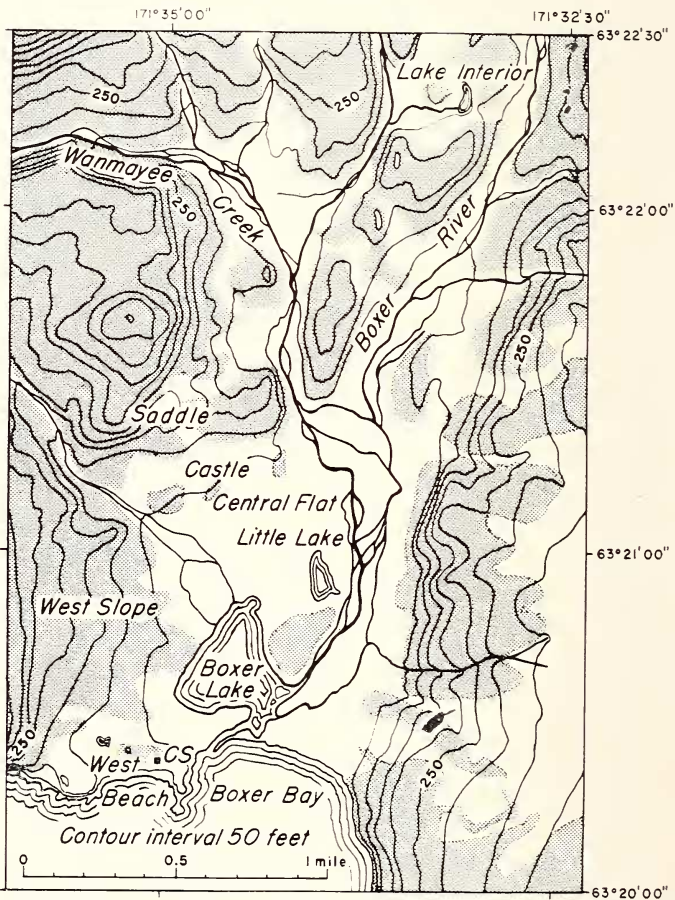


Fig. 1 c. Boxer Bay and Vicinity. CS = camp site. Modified after Sauer, 1962.

*Phalacrocorax pelagicus*. The Pelagic or Baird's Cormorant were breeding in large numbers on the cliffs between West Cape and Powooiliak Point. When the young cormorants began to leave their nests in late July and early August, the Eskimos harvested quantities of them and preserved the meat for winter use by soaking it briefly in sea water and then drying it in the air.

*Olor columbianus*. Single Whistling Swans and occasional groups of up to nine frequented Boxer Lake and Boxer Valley in June; two birds at Kangee on 14 June. On 2 July a single bird in an inaccessible marsh at a small lake in the

wet tundra northwest of the Poovookpuk Mountains toward Maghoweyik Valley seemed to be sitting on a nest.

*Branta nigricans.* One Black Brant passed over Little Lake on 7 June.

*Anser canagica.* The Emperor Goose is a typical representative of the Bering Sea fauna breeding in the unglaciated "Bering Sea Refuge" (Johansen 1956, 58). During June flocks of Emperor Geese foraged and rested along the sandy coast of Boxer Bay and in the wet tundra of Central Flat, Little Lake, and Boxer Valley. We saw large flocks off shore between Boxer Bay and Kangee on 14 June. By July most of the birds had disappeared. In August, flocks of up to 57 individuals inhabited the inaccessible marshes in the eastern part of the Boxer River delta where they molted.

*Anser albifrons.* One White-fronted Goose was seen on Little Lake on 9 June.

*Anas acuta.* We saw Pintails frequently in the reeds around Little Lake and in Boxer Valley during June. They were usually in pairs, and were extremely shy and sensitive to disturbances.

*Clangula hyemalis.* In early June Oldsquaws were common in mixed flocks in Boxer Bay, and we saw numbers at sea during the trip to Kangee on 14 June. By mid-June more and more pairs separated from these flocks and scattered into Central Flat and the surrounding valleys.

*Histrionicus histrionicus.* Between 8 and 15 June a flock of 13 Harlequin Ducks often swam in the small bay adjoining Boxer Bay on the west.

*Somateria stelleri.* During June small groups of Steller's Eiders appeared off shore at Boxer Bay. None was seen thereafter.

*Somateria mollissima.* In June Common Eiders were abundant at Boxer Bay. During the trip to Kangee mixed flocks of up to 150 individuals ranged over sea. They often rested on the sand of Boxer Bay in association with the Emperor Geese. By 28 June the males were molting and became extremely shy.

*Somateria spectabilis.* Through June and up to 6 July King Eiders occurred along the coast of Boxer Bay in groups of varying numbers. On 2 July a pair was seen inland in the wet tundra in Moghoweyik Valley northwest of Poovookpuk Mountain.

*Lampronetta fisheri.* An Eskimo hunter shot a female Spectacled Eider at Kangee on 14 June.

*Mergus serrator.* A male and female Red-breasted Merganser flew over Boxer River about one mile northeast of Little Lake on 6 June.

*Buteo lagopus.* On 12 and 26 June a light-phased Rough-legged Hawk was seen about 2.5 miles inland in the Boxer Valley.

*Falco rusticolus.* Two Gyrfalcons were noted soaring above Sivokak Mountain on 22 and 24 August.



Fig. 2. Nest site and egg of Sandhill Crane, 9 June 1960 (Photographs Fig. 2 through Fig. 7 by E. G. F. Sauer).

*Grus canadensis*. From early June on, isolated pairs of Sandhill Cranes maintained territories in Central Flat and northward to the slopes and damp upland meadows of Boxer and Wanmayee Valleys. The pairs were usually seen walking and feeding together before incubation started. The presence of additional single birds seen commonly feeding in the valleys and mountains around Boxer Bay in late June suggested that more pairs were probably nesting in the vicinity.

One pair nested in the reeds at the northeastern end of Little Lake. Its nest was built of reeds, measured about 1 meter in diameter, and contained a single egg, 97 mm in length (Fig. 2), when found on 7 June. It had not yet hatched when the nest was visited on 30 June; afterwards the nest was empty. During incubation one of the pair usually stayed on the nest while the other foraged. On 11 June between 17.00 and 21.00 the male repeatedly performed his exaggerated courtship dance in front of his mate who had been flushed from the nest.

When one approached the nest the incubating bird pressed flat to the ground and watched until the intruder came too close. Then it stalked away stealthily for some 100 meters before calling hoarsely and performing the typical "broken-wing" distraction display. The guttural distress notes always brought the foraging mate to the scene to join in the calling and distraction performance. Once when frightened from the nest the incubating crane flew northward and landed near the nest of a pair of Parasitic Jaegers, which dashed at it ferociously. Obviously frightened by the jaegers' furious swooping onslaughts, the crane stumbled away from their territory as fast as it could, stopping frequently to snap weakly back at them and to raise its wings defensively, but unable to take flight between the attacks.

*Charadrius semipalmatus*. One Semipalmated Plover was noticed at Boxer Lake on 8 June. At Kangee two other individuals were seen feeding on the shore of the lagoon on 14 June.

*Charadrius morinellus*. On 7 June two Dotterels in nuptial plumage were observed feeding between puddles of water on one of the higher rocky terraces of West Slope. The birds stayed close together and were not overly shy. This is the second sight record of this species for the island. The only previous observation referring to two adults near Gambell was reported by Friedmann (1932).

*Pluvialis dominica*. Seven pairs of Golden Plovers nested in the vicinity of Boxer Bay. One pair was observed near Kangee at the margin of Putgut Plateau, and two birds were seen near Gambell on the lower southwest slope of Sivokak Mountain.

For a report on the ecology and ethology of these Golden Plovers see Sauer, 1962. The dimensions of ten hand-raised birds, as well as ecological and behavioral characteristics, indicate that these plovers belong to the subspecies *fulva*, the Siberian, Pacific, or Asiatic Golden Plover. A 4-day-old chick was collected in Wanmayee Valley on 13 July.

*Arenaria interpres*. At Boxer Bay Ruddy Turnstones were common and highly competitive with the Golden Plovers. Birds of both species occupied the same habitat in the dry tundra, the Ruddy Turnstone perhaps extending its niche a little farther into very rocky and dry areas. The first full clutch of four eggs was found on 15 June, a second on 18 June, and a third on 19 June (Fig. 3). All were in

patches of dry gravel amid the lichen- and moss-covered tundra. Some bleached grassblades and lichens, especially the white lichen *Thamnolia vermicularis*, were used as nesting material.

When their territory or nest site was approached, the Ruddy Turnstones often flew at the intruder, uttering their distress calls. In the absence of its mate the incubating bird usually performed the typical injury-feigning distraction display.



Fig. 3. Nest of Ruddy Turnstone, 19 June 1960.

It simulated broken wings, spread and fanned its tail to make itself conspicuous, stumbled and moved helplessly away from the enemy, and even fell to the ground with its wings widespread. Ruddy Turnstones attacked Arctic Foxes vigorously and chased them away from their nest sites. They dived at the foxes in sharp, swift lunges aimed at the head and the back.

By 27 June and through July small groups of Ruddy Turnstones, some of as many as six individuals, were often noted feeding all over the dry tundra and apparently no longer bound to territories. When these groups entered territories where Golden Plovers were still incubating, they were usually attacked by the occupants. By the last of July the turnstones had left the dry tundra and moved to the low, wet tundra, and later to the shoreline. This occupancy of successive biotopes is characteristic of most avian inhabitants of the dry tundra at this time.

*Erolia ptilocnemis*. The Pacific Rock Sandpipers reported from St. Lawrence Island range from "the smallest *tshuktschorum* through the largest *ptilocnemis*" (Fay and Cade, 1959). These birds were not common at Boxer Bay in 1960. One individual was observed 20 June in the rocky area on the plateau east of Boxer Bay. Another was seen 10 August in the sandy area of the intertidal zone of Boxer Bay and about ten more on 18 August; on the same day we watched another on the slope west of Boxer Lake.

*Calidris melanotos*. On 10 June two Pectoral Sandpipers were noted at Little Lake feeding near two Western Sandpipers and a single Golden Plover. On 28 July two Pectorals disturbed by our presence in the valley northwest of Lake Interior gave distress notes.

*Calidris bairdii*. On 22 June a nest of the Baird's Sandpiper was located in Boxer Valley (Fig. 4). It contained a still incomplete clutch of three eggs and was built on the low slope north of the river on a grassy hummock surrounded by wet tundra. Most of the nesting material consisted of dry brown willow leaves which perfectly matched the color of the eggs. When the nest was checked on 30 June the bird was flushed from the completed clutch of four eggs. During daytime a female Golden Plover was

repeatedly seen feeding in this territory. The Baird's Sandpiper, a secretive and shy bird, seemed to tolerate the plover's presence. On 18 July only one infertile egg was left in the nest. This is the first breeding record of the species for St. Lawrence Island.



Fig. 4. Nest of Baird's Sandpiper, 22 June 1960.

Three Baird's Sandpipers were also observed in Boxer Valley on 26 June. One male was collected on the west shore of Boxer Lake on 28 June. On 12 July one individual displayed "broken wing" behavior in Wanmayee Valley.

*Calidris alpina*. Dunlins were perhaps the commonest of all the waders at Boxer Bay in 1960. Early in June we saw pairs and small flocks of up to six individuals along the coast, in the wet tundra of the lower West Slope and Central Flat, and on the dry rocky rises west of Boxer Lake. Once a squabble among four individuals was watched.

On 11 June we found the first nest on a dry hummock surrounded by several wet spots on one of the higher terraces north-northwest of our camp. When flushed from its four eggs the incubating bird gave the usual distraction display and ran off with its wings closed and its tail feathers spread. It then flew around the nest site in a circle about 50 meters in diameter, uttering repeatedly a muted trill. This nest was found empty on 30 June.

We found a second nest with four eggs on 17 June on the plateau east of Boxer Bay in a dry spot where the rocks were heavily covered with lichens. A third nest with four eggs, found 18 June on West Slope, was also among dry rocks. The fourth nest, located 19 June on West Slope, was on a terrace above and only some 60 meters away from the nest of a Golden Plover. Though Dunlins and Golden Plovers apparently tolerated each other at various places in the study area, a few hostile interactions were observed, especially when family groups of Dunlins approached plover nest sites too closely.

On 21 June a fifth nest was found in a dry to mesic area just south of Saddle. On 22 June we unexpectedly flushed a Dunlin in a wet meadow on the lower slope north of Central Flat. This nest, in a wet, grassy place close to a large cushion of moss, was the only Dunlin nest we found in the wet, grass-sedge-type tundra. The seventh and last nest we found on 23 June in central Wanmayee Valley, in the midst of *Ericacea* on dry ground. This nesting territory in the hills west of the creek was about 100 meters from the nest of a pair of Golden Plovers whose feeding range overlapped with that of the Dunlins.

From 27 June on small parties of up to six Dunlins wandered about in the tundra. From mid-July through August more and more Dunlins gathered on the

shores of Boxer Bay. Here they fed upon crustaceans and other small invertebrates washed up by the surf. At low tide they frequented heaps of brown algae where they found hundreds of thousands of fly larvae, mostly marine Chironomidae, to feed on. Flocks ranging up to twenty or thirty and more Dunlins were common. During the frequent heavy storms in August the concentration of Dunlins was especially high in the west corner of Boxer Bay where cliffs protected the birds from the furious winds.

*Ereunetes mauri*. Western Sandpipers were common in the wet tundra at Boxer Bay throughout the period of observation from 7 June through



Fig. 5. Nests of Western Sandpipers, a) in wet tundra, 22 June (some blades are bent to the side to look into the nest), b) in dry to mesic tundra, open nest, 27 June 1960.

19 August. From 7 to 10 June small flocks in which pairs stayed together roamed about in the wet places west of Boxer Lake. During these days the first pairs became territorial, and whenever disturbed uttered their „yeet yeet yeet yeeretetete . . . .“ alarm trill.

We discovered the first nest with four eggs in the wet, grass-sedge-type tundra west of Boxer Lake on 12 June. One of the cone-shaped eggs measured  $33 \times 23$  mm. The birds remained close to the nest and performed distraction displays on the ground and in flight. A second nest with four eggs found 22 June was in a wet meadow of Central Flat (Fig. 5 a). A third nest located 27 June was completely open, placed on the dry, flat rise east of Little Lake (Fig. 5 b). The same day groups of up to six Western Sandpipers also frequented Central Flat. On 30 June we found another nest with four eggs in the wet grass-sedge-covered area north of Little Lake. This nest was completely hidden in grass, and the bird had trodden down a narrow tunnel-like entrance pathway on its west side. The incubating bird was so attached to its clutch that it continued brooding while it was photographed at close range.

A one-week-old Western Sandpiper was seen on the shore of Little Lake on 11 July. On 13 July four young about a week old were observed with an adult in Boxer Valley. Towards the end of July several family groups of Western Sandpipers wandered through the wet tundra, but a few pairs on the lower West Slope were still territorial. An adult female was collected on the west side of Boxer Lake 28 June.

*Phalaropus fulicarius*. Red Phalaropes were seen frequently in small groups on the coast of Boxer Bay through 15 June. Along the flat coastline west of Kangee they were very abundant on 14 June; flocks exceeded 40 individuals. Many birds in these flocks seemed to be paired, for most stayed in twos and became aggressive when approached by single birds. Later in June several pairs frequented the flooded ground around Little Lake. On 2 July in the wet tundra some 5 km north of Moghoweyik River, a Red Phalarope was flushed from its nest with three eggs. On 17 and 18 August small flocks of Red Phalaropes again appeared on the sandy coasts of Boxer Bay.

*Phalaropus lobatus*. In June several pairs of Northern Phalaropes settled between the reeds of the flooded margins of Little Lake.

*Stercorarius pomarinus*. The only Pomarine Jaeger we encountered was near an inland lake in the wet tundra of Moghoweyik Valley northwest of Poovookpuk Mountain on 2 July. Not a single one was ever seen around Boxer Bay where both Long-tailed and Parasitic Jaegers nested.

*Stercorarius parasiticus*. On 4 June two Parasitic Jaegers flew over Gambell. At Boxer Bay several pairs were resident. When we arrived on 7 June a light-phased pair had established its territory on Central Flat. The birds used as lookout posts several hummocks, mounds, rocks, and particularly three rocky rises 7 to 15 meters above the surrounding wet tundra. They also coursed up and down over the tundra to search for food. On 22 June one of this pair gave the „broken wing display“ when we came near, but we did not find the nest until 5 days later. It was a flat depression on a moist hummock surrounded by moss and grass in a wet meadow of sedge and grass (Fig. 6 a). Some thalli of *Thamnia vermicu-*





Fig. 6. Nests of a) Parasitic Jaeger, 27 June, b) Long-tailed Jaeger, 23 June 1960.

*laris*, a few blades of grass, and a few bits of dry, rotten, brown willow of the color of the eggs were the only nesting materials. The two olive-brown eggs spotted with brown and black measured  $56 \times 44$  mm and  $67 \times 43$  mm. While we were at the nest the birds feigned injury both on the ground and in flight, and continuously gave alarm notes like the mewling of a cat. This represents the first breeding record for the island.

Parasitic Jaegers took note of and usually investigated the distress notes of other species, such as the Wagtails, Longspurs, Golden Plovers and other waders. Whenever small birds gave distress calls, both the Parasitic and Long-tailed Jaegers often lit nearby on some rise to watch for possible prey, thereby keeping the territories' rightful occupants away from their eggs or young.

*Stercorarius longicaudus*. On 14 June a Long-tailed Jaeger flew over Kangee. Several pairs were present at Boxer Bay throughout the summer. A nest with two eggs (Fig. 6 b) which we found in Wanmayee Valley on 23 June was merely a small depression in a cushion of moss surrounded by moss, grass, and *Sedum*, the "sour-grain" of the Eskimos. So little material was used in its construction it looked as though a little moss and a few grassblades had been torn out to deepen the depression. While we were at the nest both birds remained nearby and made distraction displays and aggressive flights. Their alarm notes resembled the barking of a fox terrier.

Long-tailed Jaegers frequently interfered with the life of other avian inhabitants of the dry and wet tundra. The Golden Plovers became very excited whenever these predators approached their territories. They usually left their nests quickly and crouched silently under cover until the jaegers left. Twice Long-tailed Jaegers perched in Golden Plover territories kept the plovers from returning to their nests for several hours.

*Larus hyperboreus*. Glaucous Gulls nested commonly in small groups on top of the offshore cliffs east and west of Boxer Bay. On their daily flights across the tundra to the sand coast of Boxer Bay or to Boxer Lake, they often alarmed the waders, particularly the Golden Plovers and Ruddy Turnstones. When gulls appeared nearby, the plovers usually ran from their nests and gave loud distress calls, which seemed to distract the gulls from the nest sites. At other times the plovers crouched at some distance from the nest and remained silent until the gulls disappeared. In July and August when wearing an Eskimo parka made of sealskin, the senior author was often attacked by passing Glaucous Gulls which dived at him sharply uttering hoarse cries. We were never attacked when wearing cloth jackets.

*Larus argentatus*. The only Herring Gulls were seen during the boat trip to Kangee on 14 June.

*Pagophila eburnea*. One Ivory Gull was seen flying off shore at Gambell on 5 June.

*Rissa tridactyla*. The Black-legged Kittiwake was perhaps the most plentiful bird at Boxer Bay. Every day flocks flew from the nesting cliffs west of Boxer Bay to Boxer Lake and to the rocks at its outlet. There they bathed and preened by the hundreds, occasionally several thousand at once. From there they also carried nesting material back to the cliffs, usually making full use of the updrafts in front of and between the cliffs. An adult male was collected at the mouth of Boxer River 12 July.

*Sterna paradisaea*. We saw several Arctic Terns flying near the coast at Gambell on 5 June. At Boxer Bay and during the boat trip to Kangee we noted several small flocks, pairs, and single birds. On 1 August several adults and one young of the year perched together on the gravel bar of the northeast shore of Boxer Bay.

*Uria aalge*. Several Common Murres nested on the cliffs west of Boxer Bay near Bunnell Cape. Fay and Cade (1959) mentioned that "the ratio of *U. aalge* to *U. lomvia* evidently fluctuates rather widely from year to year." They reported ratios of 1 : 100 in 1950 and 1 : 2 in 1954. In 1960 Common Murres were very rare compared to Thick-billed Murres.

*Uria lomvia*. Thick-billed Murres were most abundant at Boxer Bay in 1960, nesting in the same cliffs with the Pelagic Cormorants. The Eskimos collected fresh eggs of these murres during the last third of June. During their daily flights in the morning and late afternoon, a heavy ground-fog often prevented the murres from landing at their cliff sites. We could then trace the fast flying flocks by their calls as they circled around the cliffs protruding at the west side of Boxer Bay. Their flight radius measured about 250 to 300 meters. With clockwork precision the same number of birds would pass by again and again, briefly appearing and disappearing in the dense fog.

*Cephus columba*. Pigeon Guillemots were seen flying along the coast near Gambell on 4 and 5 June, on the boat trip from Gambell to Boxer Bay on 6 June, and to Kangee on 14 June. Several small colonies were located in the cliffs at Boxer Bay.

*Cyclorhynchus psittacula*. A few Parakeet Auklets were observed at sea during the trip to Kangee on 14 June; a few nested on the cliffs at Boxer Bay, where a female was collected 1 July.

*Aethia cristatella*. Crested Auklets were watched at sea during the trip to Kangee on 14 June.

*Aethia pusilla*. On 6 June during the trip from Gambell to Boxer Bay hundreds of thousands of Least Auklets were seen between 03.30 and 05.30 heading to sea from their inland nesting grounds. Again we saw thousands of these auklets near Southwest Cape on 14 June.

*Fratercula corniculata*. Horned Puffins occupied ledges and crevices close to the top of the cliffs at Boxer Bay. The less common of the two puffins in the area, one count on the west side of Boxer Bay showed about 1 Horned Puffin to about every 10 Tufted Puffins.

*Lunda cirrhata*. Tufted Puffins were closely associated with Horned Puffins and occupied the same cliffs at Boxer Bay.

*Nyctea scandiaca*. On 19 August Vernon Slwooko reported seeing two adult Snowy Owls with four fledglings about 15 miles north of Boxer Bay.

*Asio flammeus*. We saw one Short-eared Owl flying along the shoreline near the mouth of the Moghoweyik River 6 June.

*Iridoprocne bicolor*. At Gambell a Tree Swallow was seen in flight on 5 June. Another individual flew over the Boxer Bay camp on 5 August. Previously this species has been seen on St. Lawrence Island only in May (Fay and Cade, 1959).

*Corvus corax*. Ravens were apparently nesting in the highest cliffs to the west of Boxer Bay. Occasionally birds came to Boxer Lake or flew across the West Slope and Wanmayee Valley, creating an uproar among the nesting Golden Plovers, Ruddy Turnstones, and other small birds.

*Oenanthe oenanthe*. The first two Wheatears were seen feeding in Wanmayee Valley on 12 June. Again two were observed there on 23 June. A pair scolded us on a dry to mesic ridge 2 miles south of Lake Interior on 11 July. On 28 July we encountered two young Wheatears about five weeks old on the rocky rise and damp upland meadow that separate Wanmayee Valley from Boxer Valley. In early August small groups of Wheatears, possibly family units and groups of immatures, were seen in the dry tundra. From there they progressed slowly toward the coastal range, where we noticed them for the first time on 14 August. From then until 20 August Wheatears frequented the beaches as well as the vicinity of the camp.

*Motacilla alba*. We saw White Wagtails daily at Boxer Bay. One pair had its territory at the southern edge of Boxer Lake near the outlet of the river, but also ranged across the lake and westward to the cliffs. One of the adult birds repeatedly attacked and drove off a Long-tailed Jaeger from its territory. On 28 July both adults and two fledglings about 18 to 20 days old lit on the roof of our large tent, where the young noisily gaped for food and the adults busily fed them.

*Anthus spinoletta*. Fay and Cade (1959) report only two records of Water Pipits from St. Lawrence Island. We saw one on the higher ridges of West Slope 8 June. On 17 June we watched a male in courtship flight in Boxer Valley about 3 miles from Boxer Bay and noted a female nearby in wet tundra. On 19 June several individuals moved about the shoreline of Boxer Lake.

*Acanthis hornemanni*. Three pairs of Hoary Redpolls visited the cliffs at Boxer Bay on 9 June. Further occasional observations were made through 18 August at Boxer Bay, and one on 14 June at Kangee. The birds were usually encountered in mesic to wet tundra.

*Acanthis flammea*. The only Common Redpoll we identified with certainty, in Wanmayee Valley 23 June, seemed to display territorial behavior.

*Calcarius lapponicus*. The Alaskan Longspur, the subspecies *alascensis*, was common at Boxer Bay, at Kangee, and in the tundra between Boxer Bay and Gambell. Though it usually preferred wet or mesic tundra, we found the first nest on 11 June on the dry rise southwest of Little Lake. It contained five eggs. The incubating female displayed elaborate injury feigning. On 14 June we found a nest with six eggs near Kangee, and on 26 June another nest at Boxer Bay on Central Flat. Both these nests were well hidden in the dense grass and sedge of the wet tundra. On Central Flat we also located a nest containing six young

about two to three days old on 30 June. On 8 July immatures 15 to 16 days old roamed about Boxer Lake. A nest with three eggs we found in a wet meadow about 100 meters north of the camp on 20 July may have been a second clutch encouraged by the exceptionally favorable summer of 1960.



Fig. 7. Snow Bunting, a) nest site in the gravel bed of Boxer River, b) leaving through south entrance, c) clutch, 28 June 1960.

The cup-shaped nests of these longspurs usually were built of grass and lined with soft white feathers. During the daytime observations only the females were seen to incubate. By the end of July family groups wandered through both dry and wet tundra, but in August were rarely seen in the dry tundra.

*Plectrophenax nivalis*. Snow Buntings were common at Boxer Bay and were observed daily. They nested in the cliffs, in the rocky bed of Boxer River, as well as in the rocky hinterland of Boxer Bay. The male of a pair nesting next to our camp had a song very similar to that of the European Whitethroat, which we heard him sing nearly every hour of the 24-hour day. Often this pair had boundary clashes with neighboring Snow Buntings. A nest in the dry bed of Boxer River was remarkable in many respects. When the snow and ice receded the boulders in the river bed became exposed and dry. On 27 June, ten days after the water had gone, a female was flushed from under the rocks. Her mate appeared nearby, and both birds silently remained close at hand. Then the female went

back to her nest with six eggs (Fig. 7). On 29 June we observed the male feed his mate about 1 meter from the nest, where she chirped and gaped like a nestling Snow Bunting. When a high tide flooded the nest site on July 16 the young ones had just left the nest and were safe.

The first fledglings out of the nests were noticed on 13 July. At the end of July the buntings from the hinterland started a general movement toward the coastal tundra. No Snow Buntings were seen after 18 August.



Fig. 7 b, c

### Summary

Observations on 58 species of birds were made between 2 June and 28 August, 1960, on St. Lawrence Island in the sea and tundra between Gambell, Boxer Bay, and Kangee, and particularly at Boxer Bay with sundry notes on behavioral activities and ecological data. Sandhill Crane, Baird's Sandpiper, Western Sandpiper, and Parasitic Jaeger were found nesting on the island for the first time. The observation of Wheatears of 5 weeks of age is also the first indication that this species nests on St. Lawrence Island. The 6 specimens collected by the junior author are deposited in the Zoological Museum of the University of Wisconsin.

### Zusammenfassung

Während unseres Aufenthaltes auf der St. Lorenz-Insel in der Bering-See vom 2. Juni bis 28. August 1960 beobachteten wir 58 Vogelarten auf See, an der Küste und in der Tundra zwischen Gambell und Kangee und besonders in der Umgebung der Boxer-Bucht. Erste lokale Brutnachweise konnten für *Grus canadensis*, *Calidris bairdii*, *Ereunetes mauri* und für *Stercorarius parasiticus* erbracht werden. Beobachtungen von jungen Steinschmätzern im Alter von fünf Wochen wiesen darauf hin, daß auch diese Art auf der St. Lorenz-Insel brütet. Unsere Gelegenheitsbeobachtungen schließen Hinweise auf Brutdaten, Verhaltensweisen und andere ökologische Daten mit ein.

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